

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

5 Listing of Claims:

1. (Currently Amended) A thermal module for dissipating heat in a laptop computer, the thermal module comprising:
a heat pipe for rapidly transferring heat;
10 a heat absorber disposed at one end of the heat pipe for absorbing heat;
a heat storage disposed at another end of the heat pipe for storing excess heat, the heat storage comprising a plurality of types of phase change materials for heat
15 storage that change from one physical state to another physical state at differing temperatures; and
a heat dissipater disposed at one section of the heat pipe between the heat absorber and the heat storage.
- 20 2. (Original) The thermal module of claim 1 wherein the heat storage is fixed flush against all surfaces contacting the heat pipe.
3. (Original) The thermal module of claim 1 wherein the heat
25 storage is fixed flush against all surfaces contacting the heat dissipation region.
4. (Original) The thermal module of claim 1 wherein the heat
storage comprises a casing.
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5. (Original) The thermal module of claim 4 wherein the casing is flexible.

6. (Original) The thermal module of claim 4 wherein the casing comprises an electrically insulating layer.
- 5 7. (Original) The thermal module of claim 4 wherein the casing comprises a thermally insulating layer.
8. (Currently Amended) The thermal module of claim [4] 6 wherein the further comprising a first phase change material
10 materials are disposed within the casing, ~~the first phase change material storing excess heat during a period of high heat absorption and releasing the stored heat during a period of lower heat absorption.~~
- 15 9. (Currently Amended) The thermal module of claim 8 wherein the first at least one phase change material is selected from the group consisting of wax, water, neopentyl glycol (NPG), and $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$.
- 20 10. (Currently Amended) The thermal module of claim 8 wherein ~~the~~ a first phase change material changes from a solid state to a liquid state at a first predetermined temperature.
- 25 11. (Original) The thermal module of claim 10 further comprising a second phase change material disposed within the heat pipe.
- 30 12. (Original) The thermal module of claim 11 wherein the second phase change material changes from a liquid state to a gaseous state at a second predetermined temperature.

13. (Original) The thermal module of claim 12 wherein the first predetermined temperature is higher than the second predetermined temperature.

5 14. (Currently Amended) A thermal module for dissipating heat in a laptop computer, the thermal module comprising:
a heat generating electrical component;
a heat sink capable of dissipating a predefined reasonable thermal target quantity of heat corresponding to a
10 predefined temperature;
a heat pipe for transferring heat from the heat generating electrical component to the heat sink, one end of the heat pipe being in thermal contact with the heat generating electrical component, a section of the heat
15 pipe being in thermal contact with the heat sink; and
a heat storage device disposed at another end of the heat pipe so that the heat sink is between the heat storage device and the heat generating electrical component, the heat storage device comprising [[a]] an electrically
20 insulating casing and a first phase change material confined within the casing, the first phase change material changing from one physical state to another physical state at approximately the predefined temperature, the heat storage device disposed in flush
25 thermal contact with the heat pipe such that when the heat pipe transfers a quantity of heat from the heat generating electrical component to the heat sink in excess of the reasonable thermal target, the heat storage device absorbs and stores the excess heat.

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Claim 15 (New): A thermal module for dissipating heat in a laptop computer, the thermal module comprising:

a heat pipe;
a heat generating electrical component in thermal contact
with one end of the heat pipe;
a heat storage device in thermal contact with another end
5 of the heat pipe, the heat storage device comprising a
thermally and electrically insulating casing at least
partially enclosing a first phase change material, the
first phase change material changing from solid state
to a liquid state at approximately a first predefined
10 temperature; and
a heat sink in thermal contact with the heat pipe between
the electrical component and the heat storage device,
the heat sink of a predetermined size maximally capable
of continuously dissipating a predefined reasonable
15 thermal target quantity of heat at the first predefined
temperature, the reasonable thermal target being less
than a maximum quantity of heat generated by the
electrical component under operating conditions;
wherein the heat storage device extends into gaps between
20 electrical components of the laptop computer.

Claim 16 (New): The thermal module of claim 15 wherein the
thermally and electrically insulating casing further at
least partially encloses a second phase change material,
25 the second phase change material changing from solid state
to a liquid state at approximately a second predefined
temperature, the second predefined temperature being
different than the first predefined temperature.

30 Claim 17 (New) The thermal module of claim 15 wherein the first
phase change material is selected from the group consisting
of wax, water, neopentyl glycol (NPG), and $\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$.